

LIST OF CURRENT CLAIMS

1. (Currently Amended) Device for simultaneously cooling and removing liquid from compressed gas of at least one a compressor element, comprising (1) or of several compressor elements (1) which are connected either or not in parallel or in series, which device comprises a pressure vessel (2) which is provided with a liquid drain (8) at the a bottom thereof, an inlet (6) for compressed gas at a distance above the latter and an outlet (18) for compressed gas at the a top thereof, characterised in that wherein a distribution device (4) is provided in the pressure vessel (2), between the inlet (6) and the outlet (18) for the compressed gas, said distribution device arranged so as to spread for spreading a cool fluid in direct contact with the compressed gas, and including in that a heat exchanger (5) is provided in the pressure vessel arranged to heat (2) for heating the compressed gas which has been cooled by the cool fluid.
2. (Currently Amended) Device according to claim 1, wherein characterised in that the cool fluid is spread in counterflow relationship with respect to the flow of in the compressed gas.
3. (Currently Amended) Device according to claim 1, wherein or 2, characterised in that a contactor (3) is provided between the inlet (6) and the distribution device (4).
4. (Currently Amended) Device according to claim 3, wherein characterised in that the contactor (3) mainly consists of comprises a pile of loose particles, either or not porous particles which are either or not piled according to a regular pattern.
5. (Currently Amended) Device according to claim 3, wherein characterised in that the contactor (3) mainly consists of comprises a mass with an open structure, either or not porous.
6. (Currently Amended) Device according to claim 3, wherein characterised in that the contactor comprises (3) mainly consists of dishes.

7. (Currently Amended) Device according to claim 1, wherein ~~one or several of the claims 4 to 6, characterised in that~~ the contactor (3) ~~consists of~~ comprises a combination of different types of contactors.

8. (Currently Amended) Device according to claim 1, wherein ~~characterised in that the heat exchanger arranged to heat (5) for heating the gas is located~~ ~~erected at a~~ the top area of ~~in the~~ pressure vessel (2).

9. (Currently Amended) Device according to claim 1, wherein ~~any of the preceding claims, characterised in that~~ the distribution device (4) for cool fluid comprises a pipe (12) opening onto the contactor (3) in the pressure vessel (2) and extending over a cooler (14).

10. (Currently Amended) Device according to claim 9, wherein ~~characterised in that the cooler (14) is a heat exchanger whose primary part is part of a cooling circuit (15) and whose secondary part is a part (12A) of the pipe (12).~~

11. (Currently Amended) Device according to claim 9, wherein ~~or 10, characterised in that the pipe (12) of the distribution device (4) connects to a return line (9) of the~~ ~~a water drain (8) of the pressure vessel (2) to an injection system of the compressor element (1).~~

12. (Currently Amended) Device according to claim 11, including ~~characterized in that a cooler located (10) is erected in the return line (9).~~

13. (Currently Amended) Device according to claim 9, wherein ~~any of claims 9 to 12, characterised in that a part (12B) of the pipe (12) of the distribution device (4) is part of the heat exchanger (5) for to enable~~ re-heating the gas.

14. (Currently Amended) Device according to claim 3, including ~~any of claims 3 to 13, characterised in that it comprises~~ a demisting device (19) in the pressure vessel (2) above the contactor (3).

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15. (Currently Amended) Device according to claim 3, wherein ~~characterised in that~~ the heat exchanger (5) and the contactor (3) are thermally insulated and in that the insulation (2A) is preferably provided on the outside of the pressure vessel (2).